

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended):      An apparatus for adjusting a filter tap length for an adaptive equalizer comprising:

        a multipath detector for detecting multipath information from a difference between the correlation values of input data applied to the adaptive equalizer and a training sequence, and from an auto correlation value of a training sequence when the training sequence is valid; and

        a tap length adjusting unit for generating a tap length control signal based on positions of the ~~farthest~~ pre-/post-ghosts farthest from a main tap by using the detected multipath information and a field sync signal.

2. (original):    The apparatus according to claim 1, wherein the multipath detector comprises:

        a first multiplexer for enabling the input data applied to the adaptive equalizer when the field sync signal is logic "high" and outputting enabled data;

        a second multiplexer for enabling a reference signal when the field sync signal is logic "high" and outputting an enabled signal;

        a first sync sequence correlator for calculating a correlation value of the data output from the first multiplexer and a 704-symbol training sequence;

a second sync sequence correlator for calculating a correlation value of the reference signal output from the second multiplexer and the 704-symbol training sequence; and

a subtractor for subtracting the output signal of the second sync sequence correlator from the output signal of the first sync sequence correlator to detect multipath information.

3. (original): The apparatus according to claim 2, wherein the tap length adjusting unit comprises:

a calculator for obtaining an absolute value of the output of the subtractor which is used as the multipath information obtained from the multipath detector;

a threshold comparator for comparing the obtained absolute value with a threshold value and outputting only the correlation values exceeding the threshold value;

a counter for counting field sync sections delayed by an amount of time taken in obtaining the correlation value;

a ghost detector for detecting a position of a ghost from the correlation value obtained by the threshold comparator for the delayed field sync sections counted by the counter; and

a tap length table for matching the tap length so as to cover the detected pre-/post-ghosts to output the tap length control signal.

4. (original): The apparatus according to claim 3, wherein the tap length table is classified into sections according to a distance from a main tap, and a predetermined number of taps is set to each section.

5. (currently amended): A method for adjusting the filter tap length for an adaptive equalizer comprising the steps of:

detecting multipath information from a difference between correlation values of input data applied to the adaptive equalizer and a reference signal, and from an auto correlation value of a training sequence; and

determining a required filter tap length by detecting positions of pre-/post-ghosts farthest from a main tap using the detected multipath information.

6. (original): The method according to claim 5, wherein the multipath detecting step comprises the sub-steps of:

(a) inputting data;

(b) obtaining a correlation value between the data input in step (a) and a reference signal consisting of 704 known symbols;

(c) obtaining a difference between the correlation value obtained in step (b) and the auto correlation value of the reference signal; and

(d) detecting multipath information from the difference obtained in the step (c).

7. (currently amended): The method according to claim 5, wherein the tap length determining step comprises the ~~sub-steps~~ sub-step of:

~~(a) detecting positions of pre-/post-ghosts farthest from a main tap using the multipath information obtained in the multipath detecting step; and~~

[[ (b) ]]  
adjusting the tap length so as to cover the detected positions of ghosts ~~detected in step (a).~~

8. (previously presented): The method according to claim 5, wherein the input data applied to the adaptive equalizer is enabled for use in the multipath detecting when a field sync signal indicates a valid training sequence.

9. (previously presented): The method according to claim 5, wherein correlation operations for detecting multipath information are selectively enabled by a field sync signal.

10. (previously presented): The method according to claim 5, wherein the required filter tap length is determined by using a field sync signal.

11. (previously presented): The apparatus according to claim 1, wherein the input data applied to the adaptive equalizer is enabled for use in detecting multipath information when a field sync signal indicates a valid training sequence.

12. (previously presented): The apparatus according to claim 1, wherein correlation operations for detecting multipath information are selectively enabled by a field sync signal.